

## Claims:

1. An optical compensation film comprising a cellulose ester film comprising cellulose ester wherein
  - (a) each of photoelastic coefficient  $C(md)$  in a mechanical direction and photoelastic coefficient  $C(td)$  in a transverse direction of the cellulose ester film is  $1 \times 10^{-9}$  to  $1 \times 10^{-13} \text{ Pa}^{-1}$ , and  $C(md) < C(td)$ ,
  - (b) retardation  $R_0$  within a plane of the cellulose film defined by Formula (I) is 20 to 70 nm,
  - (c) retardation  $R_t$  of the cellulose ester film in a thickness direction defined by Formula (II) is 70 to 400 nm, and
  - (d) each of a dimensional variation ratio  $S(md)$  in the mechanical direction and a dimensional variation ratio  $S(td)$  in the transverse direction of the cellulose ester film prior to and after being allowed to stand at ambient conditions of 80 °C and 90 percent relative humidity for 50 hours are -1 to 1 percent, and  $|S(md)| > |S(td)|$ .

$$(I) R_0 = (n_x - n_y) \times d$$

$$(II) R_t = \{(n_x + n_y)/2 - n_z\} \times d$$

wherein  $n_x$  is a refractive index in a transverse direction within a plane,  $n_y$  is a refractive index in a mechanical direction within a plane,  $n_z$  is a refractive index in a

thickness direction of the film, and d is a thickness of the film in nm.

2. The optical compensation film of claim 1, which comprises an optically anisotropic layer.

3. The optical compensation film of claim 1, wherein the cellulose ester simultaneously satisfies Formulas (IV) and (V),

$$(IV) \quad 2.55 \leq X + Y \leq 2.85$$

$$(V) \quad 1.4 \leq X \leq 2.85$$

wherein X is a degree of substitution of an acetyl group and Y is a degree of substitution of a propionyl group or a butyryl group.

4. The optical compensation film of claim 1, wherein the cellulose ester has a degree of acetylation of 59.0 to 61.5 percent, and comprises a compound having at least two aromatic rings in an amount of 0.1 to 20 parts by weight with respect to 100 parts by weight of the cellulose ester.

5. The optical compensation film of claim 2, wherein the optically anisotropic layer has a fixed nematic hybrid orientation structure.

6. The optical compensation film of claim 2, wherein the optically anisotropic layer contains a liquid crystal compound.

7. The optical compensation film of claim 7, wherein the liquid crystal compound is discotic liquid crystal.

8. A viewing angle compensation integral type polarizing plate comprising two protective films and a polarizer, wherein at least one of the protective films is the optical compensation film of claim 1, and a delayed phase axis of an ester film in the optical compensation film and a transparent axis of the polarizer are substantially parallel.

9. A liquid crystal display apparatus employing the viewing angle compensation integral type polarizing plate of claim 8.

10. A support for an optical compensation film comprising a cellulose ester film comprising cellulose ester wherein

- (a) each of photoelastic coefficient  $C(md)$  in a mechanical direction and photoelastic coefficient  $C(td)$  in a transverse direction of the cellulose ester film is  $1 \times 10^{-9}$  to  $1 \times 10^{-13} \text{ Pa}^{-1}$ , and  $C(md) < C(td)$ ,
- (b) retardation  $R_0$  within a plane of the cellulose film defined by Formula (I) is 20 to 70 nm,
- (c) retardation  $R_t$  of the cellulose ester film in a thickness direction defined by Formula (II) is 70 to 400 nm, and
- (d) each of a dimensional variation ratio  $S(md)$  in the mechanical direction and a dimensional variation ratio  $S(td)$  in the transverse direction of the cellulose ester film prior to and after being allowed to stand at ambient conditions of 80 °C and 90 percent relative humidity for 50 hours are -1 to 1 percent, and  $|S(md)| > |S(td)|$ .

$$(I) R_0 = (n_x - n_y) \times d$$

$$(II) R_t = \{(n_x + n_y)/2 - n_z\} \times d$$

wherein  $n_x$  is a refractive index in a transverse direction within a plane,  $n_y$  is a refractive index in a mechanical direction within a plane,  $n_z$  is a refractive index in a thickness direction of the film, and  $d$  is a thickness of the film in nm.